

### ABSTRACT OF THE DISCLOSURE

A catalyst composition contains a perovskite composite oxide of the type expressed by a rational formula  $ABO_3$ , wherein A consists of two types of constituent elements of A' and A'' and B consists of two types of constituent elements of B' and B'', and the perovskite composite oxide is expressed by a general formula  $A'_{1-x}A''_x B'_{1-y}B''_y O_3$ . The A' is La or Ce, the A'' is at least one element selected from the group consisting of La, Ca, Sm, Ce, Sr, Ba and Pr, the B' is at least one type element selected from the group consisting of Co, Fe, Mn and Gd, and the B'' is any one type of a noble metal such as Ru, Rh, Pd, Pt, or the like. This catalyst composition can be employed as a reforming catalyst of the alcohol or the hydrocarbon-based gas to produce hydrogen gas for a fuel cell, or as an electrode catalyst.